WHAT ELECTRICITY MAY DO.

Great Social and Economic Changes Possible.

From the Pall Mall Gazette.

It is a trite observation that no political combination of the fifteenth century so profoundly influences the life of the present generation as the mechanical combination of type in Gutenberg's printing press. The making of gunpowder, the invention of the compass, and the construction of the steam engine, are all familiar illustrations of the extent to which the inventor has revolutioned the world. Even in the pure political sense it may be asserted that Watt was more powerful than Pitt, and the share of Arkwright in enabling England to resist, and ultimately to overcome, the power of Napoleon was hardly less important, although much less conspicuous, than that of Wellington. The discovery of the extent to which two parallel railroads of iron could expedite locomotion, in Dr. Arnold's opinion, gave the death-stroke to feudalism; and no one can as yet compute the extent to which it has contributed to remodel the social system of the civilized world. Not even Stephenson, as he stood by the cradle of the locomotive, fully realized the revolutionary agent he was letting loose upon mankind, and the most sanguine believers in the future development of electricity can hardly be expected to understand the extent to which the utilization of this force may affect the settled order of the State. All great discoverers are great revolutionists, or, rather, it may be said that all great discoverers contain within themselves the germs of many revolutions. At present the application of electricity is only in its infancy, but already any one who is familiar with the dissolvent action of the steam engine on the old order which existed a century since can understand that the dynamo machine and the storage battery may yet effect a very unexpected transformation of the social organization, and modify or even destroy the existing balance of political forces. The political and social significance of recent discoveries in the application of electricity is increased by the disappearance of the old, unreasoning conservatism which fifty years ago formed so great an obstacle to the development of the railway system. The leader of the Conservative party is today driving piles in the River Lea by electricity generated by the water-wheel that to-night will light up the electric lamps which illuminate Hatfield Hall. Not only has the old prejudice against newfangled inventions disappeared, but information is disseminated with a rapidity before unknown. Electricity, therefore, has far fewer obstacles to overcome than those which steam has vanished; and if, as is most probable, it is destined to bring about great changes, they will be brought about with a rapidity partaking some what of its own character.

Last week M. Deprez succeeded in transmitting power by means of electricity through resistance representing fifty miles of ordinary telegraph wire. Hitherto it has been impossible to transmit six or eight horse power for plowing or other heavy work more than two or three miles. This is but an illustration of the development of the new force. It enables us to conceive the impossibility—to take only one illustration—of substituting a stout cable for all the wagons and steamers employed in carrying coals from the pits to the manufacturing centers where it is required for working machinery. But that is only a detail, and a comparatively small detail, of the change it foreshadows. Together with the discovery of the practicability of storing electrical energy to any extent, it opens up a vista of industrial revolution before which the boldest may well hold his breath. It renders possible the storage for future use of the fitful but tremendous forces of nature which at present run to waste. The wind, the waterfall among the mountains, and the tide on the shore, by which the simple agency of the dynamo machine and the storage battery may in a few years compete with the steam engine in its own field. Sir William Armstrong has long lit up his picture gallery at Rothbury by the aid of a little mountain rivulet, and Godalming has shown that a town may be lighted by the river on which it stands. "A tenth part of the tidal energy in the valley of the Severn," says prof. Sylvanus Thompson, "would light every city, and another tenth would turn every loom, spindle, and axle in Great Britain." In Ireland and in Scotland, in Wales and in some of the hilly districts in England, mountain torrents generate force which, if stored and used, would enable us to dispense with coal for all purposes except for heat, and even heat may yet be laid into our houses by wire as well as light and force. If such a prospect is realized the whole distribution of population in Great Britain and Ireland may be altered, and electricity may far outdo the exploits of the railway in "setting towns a-dancing" all over Britain.

The consequences of such a revolution, which, among other changes, might restore to the southwest the supremacy which passed to the northeast under the influence of the steam engine, would necessarily be soenormous that it is hardly worth while to allude to a bill for re-distributing seats in Parliament as one of the minor changes which would follow in its wake. Neither need we dwell upon the indirect result of the production of a cheap and brilliant light upon the morals of our streets—although in Boston they declare that one electric lamp is as effective as five policemen. But there are two changes the new force is likely to produce which should be mentioned. By facilitating the distribution of force it will tend to promote decantralization, and possibly may bring about a more equal distribution of wealth. Electricity, unlike the steam, does not necessitate the concentration of capital. Steam blew up aristocracy, but plutocracy may be smitten by the thunderbolt. A steam engine is only potent within the range of its shafting. A dynamo machine at the nearest mill-rate could work a loom in every cottage or drive a plow on the holding of every peasant. But still more remarkable is likely to be its influence in the practical realization of one of the dreams of modern socialism. No practical man believes that there is any prospect of placing the existing means of production in the hands of the representatives of the whole community. Both the surface of the land and its mineral treasures have passed irrevocably into the hands of private owners. But what promise to be the motive forces of the future belongs to no man. The tides, the cataracts, and the wind are the heritage of all. If they are to be utilized the public spirit of the local communities, which every day shows more impatience with the existing monopolies, may be relied upon to take prompt action to prevent their exploitation for the benefit of a few. The gas and water supply are already in the hands of the municipalities. Who can calculate the results which might follow if the local authorities were also placed in possession of a force destined to be the mainspring of our manufacturing industry?

New Mexico.

The Cerrillo Coal Fields are extensive, and contain deposits of bituminous and anthracite coal, very superior in quality, equal to any in the West. The anthracite coal fields cover an area of 12,000 acres, and the extent of the bituminous coal can hardly be estimated. The value of these coal deposits in this location may be judged when I state the fact that the Southern Pacific Railroad gets its supply of coal from Oregon and Newcastle mines in Australia; the coke for smelting works in Southern New Mexico and Arizona is brought from England, and the Texas and Pacific Railroad draws its coal supply from McAlister, in the Indian Territory. The Anthracite & Bituminous Coal Company, of which W. E. Broad is President, and Colonel Charles H. Irvin Chief Engineer, owns a very large body of land embracing these coal deposits. The company is operating their anthracite mines, situated three miles southwest of Cerrillos Station, and as soon as arrangements can be perfected with the Railroad Company for cars and rates, a larger force of men will be put to work moving the coal. Only sixteen men are at work at present, putting out ten tons daily and driving the tonnel, which is already in 225 feet. The mine is in shape to move sixty tons daily, and in twenty days it could be in shape to move 100 tons. The vein is five feet thick, dips southeast ten feet to the 100 feet. The coal is undoubtedly of a very fine quality, and is claimed to be equal to the best Pennsylvania anthracite. Colonel Irvin discovered this coal in 1857, when on an expedition to reconnoiter the country for the Atlantic & Pacific Railroad. This report was stoutly denied by Professor Owen, at that time an authority on geology, on the ground that, according to known geological laws, it was impossible that anthracite coal should be found anywhere in the Rocky Mountains. The coal is being used in Santa Fe, and is giving such thorough satisfaction as to take the place of all other coals. It will be in great demand throughout the West and as far east as the Missouri river.

The Bituminous mines are two and a half miles southwest of Cerrillos. The company is moving twenty tons daily, and in thirty days the mines will be in shape to mine 100 tons daily, with capacity for any amount required. It is intended to erect large cooking works. There are fourteen veins distinctly traceable, varying from one to five and a half feet in thickness. Outcrops show this field to cover at least 10,000 acres, and in the same tract are found considerable bodies of plumbago, fire clay and brown hematite.—*Denver Tribune.*

Eclipses in 1882.

In the year 1882 there will be two eclipses of the sun, and a transit of Venus over the disk of the sun:

I. A total eclipse of the sun May 17th, not visible in America, the line of totality passing across Africa and Asia, and visible as a partial eclipse in Europe.

II. An annual eclipse of the sun November 10th, not visible in America, the principal phases being confined to the southern portions of the Pacific Ocean.

III. A transit of the planet Venus over the disk of the sun, on December 6th, visible throughout the United States. There will be four contacts of the circular disks or limbs of the sun and plannet, namely, a first external contact of the limbs, and then, after an interval of about twenty-one minutes of time, the second contact, or first internal contact will take place. After an interval of about six hours the third contact or second internal contact will take place, and about twenty-one minutes after the third, the fourth contact or second external contact will complete the transit.

THE JAMES GANG.

Something about the James Banditti from Beginning to End—The Killing of Jesse.

The news of the death of the last man to hold out, Jesse James, recalls some reminisiscences of the family and the offspring of it, who knew every rabbit track in the west.

THEIR FATHER WAS A PREACHER.

In the good old days he was a pious man and "Walked with God," though it must be confessed that his sons took a very different kind of promenade. In the dark days of Missouri, Jesse and Frank James espoused the cause which flaunted the bars. They were never soldiers; in this they were not alone. The woods were their haunts, and in their barbarian code there was no such thing ever known as a white flag; their bugles, if they ever had any, never were tuned to the peaceful notes of truce. The only camp stories that were ever told about their retreats were those which told of the way in which the last man died, and then they drank from their tin cups to the next one who was to go. In all probability they never thought of the day when there was to be a dawn of peace. It is said that their first determined oath to live their days out as terrors, was when their old father was taken from his home by some of Jennison's gang and hung up to a tree, where he was soundly thrashed until his pious limbs danced a hornpipe between heaven and earth. Their first attempt to avenge this fancied injury was in their own county seat, Liberty, Missouri. This was in the shape of bank robbery, in which they were assisted by Andy McGuire, Archie Clements, and Dick Burns. It may not generally be known that one of this gang, in a very short time after this first attempt to get even, paid for the "pastime" by being

CHOKED TO DEATH,

suspended from a tree almost in sight of the spot where the robbery took place. This was McGuire. When he had been given his portion of the "swag," his thoughts were immidiately diverted from the darings of the James brothers to something exactly antipodal—love. With his gains he attired himself in broadcloth and went to Independence, the county seat of Jackson, where he planned and carried out the capture of a woman who had given him her approval. They were united while mounted on horseback, and immediately made for the first railroad station, where they boarded the first eastward-bound train, which carried them into St. Louis. While he was occupied in making such reassurance as young men in like positions are wont to make, waiting for the next train, he was arrested and taken back to Liberty. A few weeks later the people of that section, who evinced a better spirit then they have since toward such characters, went to the jail one evening and called for "Mr." McGuire. In spite of the fact that he was fresh from the nuptial altar, they went with him to the woods, and

HIS BRIDE

went the next day to the funeral of a groom with a broken neck.

Not many months after this little event Archie Clements sauntered into the aristocratic town of Lexington for the purpose of airing htmself, when he fell in with a squad of Bacon Montgomery's noted militia. There was an evident desire on the part of the latter folks to settle up an old score, for that night Clements' friends took him out of a house dead. The buckshot that entered his body were never counted, but there were enough to bring out a large funeral.

It was not many weeks later that some of the neighbors in an adjoining county, who went out to help in a harvest field, had their day's labor interrupted by a "burying" which they were called upon to attend, in which Dick Burns took the role of a corpse. No effort was ever made to learn who split his head open, or who hid him in the hay-stack.

In the meanwhile it behooved the Clay county pair to recruit their service, and George Shepperd, Jim Read and Bud McDaniels were in the field ready for spoils.

Shepperd participated in a bank robbery in Kentucky, for which he was arrested and tried and convicted. On the expiration of his term he returned to Missouri and entered into league with Marshall Liggett, of Jackson county, to plan a capture of the James Boys. He went to Joplin, Missouri, and a few miles from there he found the old gang in the bush, to whom he renewed his allegiance. A day or two after he made some excuse to go to Kansas City and departed. This was regarded with suspicion by the James boys, who awaited his return with some anxiety. He went to Kansas City, and the plans for the capture of the noted outlaws seemed assured. He returned and was to have been followed by Liggett the day after. When Shepperd went back to camp a conflict ensued, in which he was shot. He claimed then that he shot Jesse James. He adhered to this statement until a few weeks ago, when he came out and announced himself the champion liar, by saying that he never shot Jesse, and that the whole affair was a cooked sensation

Jim Read fell in with a Texas sheriff who was a better shot than he, and there was a quiet funeral down there. He figured conspicuously in the affair at Gad's hill, on the Iron Mountain road.

Bud McDaniels, who was as handsome a man as ever sat in a saddle, was at the Muncie, Kansas affair. A woman played the deuce with him, too. He had a mistress in Kansas City, and ladened with jewelry he rode into Kansas City one evening after dark, and was galloping up Main street when he woke up a policemen who halted him for fast riding. A row was the result, in which McDaniels was arrested, and when taken to the station and searched he was recognized. He was sent back to Kansas, and, becoming tired of prison life, he escaped. He was surrounded in a thicket, given away by a negro, and was

SHOT TO DEATH

before he would surrender. His mistress tried to add a romantic link to his career by committing suicide.

Not long after this his brother, Thompson McDaniels, was converted into a corpse in Huntington, W. V., where he had gone "to draw some money" out of a bank in that village. His "pal," Jack Kean, was captured later, and is now serving a term in the penitentiary

The other members of the Missouri banditti band were Hobbs Kerry, Berry, Arth McCoy, John Younger, Clel Miller, Bill Chadwell, Charlie Pitts, Call, Jim, and Bob Younger, Tucker Bassham, and Bill Ryan. A recapitulation of the feat of each of these is given briefly as follows: Kerry confessed to the Otterville robbery, and is serving out a term. Berry died from the effects of a shot by a Missouri sheriff soon after a train robbery on the Union Pacific road. McCoy went to sleep under a Texas rose, and

NEVER WOKE UP IN THIS WORLD.

John Younger was killed by Captain Lull, of Pinkerton's force, who afterward paid for the righteous deed with his own life. Miller, Chadwell, and Pitts went too near Northfield and were killed, while, Call, Jim and Bob Younger were taken in the same raid and are boarders to-day at the expense of the state of Minnesota. Bassham is in the Missouri penitentiary, and Bill Ryan is in the jail at Kansas City. Frank James is declared by his friends to be a helpless invalid.

The recent persistent efforts of Governor Crittenden, of Missouri, to capture the remnants of the gang, the success he has had in trapping the novices and inducing them to squeal, and doubtless had much to do in running the captain of the border banditti to close quarters where he has died, as he always said he would: "With his boots on, spurs and all."—*Chicago Times.*

THE OUTLAWS EXPLOITS.

KANSAS CITY, Mo., April 3.—Jesse James was born in Clay county, Missouri, in 1845. He is the son of the Rev. Dr. James. He has had little education. When sixteen years of age he joined Quantrel's band of guerillas, and participated in the butchery at Centralia, Mo., and the sacking and burning of Lawrence, Kan. He was also connected with other events of the war of like nature. In 1866 he made his first robbery, which was at the bank of Liberty, Mo. In 1867 he robbed the Russellville (Ky.) bank, and 1878 the Huntington Va., bank. During 1866 and 1868 he was connected with stage robberies in Texas. Frank James and Jesse, in 1869, robbed the Gallatin, Mo., bank and

KILLED THE CASHIER.

In 1872 he Robbed the Kansas City Fair office, in broad daylight, of $10-000. In 1873 St. Genevieve bank was robbed, and in 1874 the Muncie, Kan., bank. In that year he robbed a stage at Hot Springs, and also participated in his first train robbery on the Iron Mountain road. In 1876 the Minnesota bank was robbed, at Northfield Minn.; the cashier killed and three of Jesse's gang. The glendale train robbery occured in 1867; the Winston and Blue Cut train robberies last year. Since then officers have been in pursuit of the desperado. He was aided in all of his exploits by a gang from his own neighborhood. It is estimated that his robberies amount to nearly $1,000,000. —*Inter-Ocean, Telegram.*

A Cautious Editor.

The religious welfare of Greenville. Ala., is jealously guarded by the *Echo*, A new theatre was to be opened with "Richelieu, and the cautious editor, while admitting that the play was regarded tolerably moral, felt it his duty to add: "We are so utterly ignorant of everything in this line, having never informed ourselves upon the subject, that we are entirely unable to make any positive assertion one way or the other. This notice was allowed to enter our columns with the express understanding that we are constitutionally and religiously opposed to theatres. We have only announced—all go at their own risk."

A Salt Mine.

The Abilene (Texas *Reporter* says that a few days since a gentleman who has seen a great deal of our western country, in the courses of a conversation, told of a running stream, in Stonewall county, 80 miles northwest of Abilene, that is impregnated with salt to such an extent that the water is so heavy a man's body will float on it without the least exertion on his part, and that it requires the ordinary strength of a man to sink his hand or foot to the bottom. Pure salt in large blocks, and in great quantity, is procured from the bed of the creek. Two of Mr. Goodnight's teams en route to Abilene for freights the other day, stopped there a day, and two hands got as much salt as the wagons could haul to town.

Capturing Wild Horses.

A large mob of wild horses is described coming toward the riders over a distant rise. As they draw near and see themselves headed by mounted men, they wheel sharply on one side, and, with manes and tails streaming in the wind, and their flanks shining with moisture, they gallop off in another direction, but only to find enemies wherever they turn. At last, in desperation, they make straight for the widest gap they see in the circle. The two men between whom they hope to escape leap off their hack horses, which they quickly hobble and leave loose, and, mounting barebacked on the spare one, wait for the right moment for closing in on the flying and already distressed baguales as they make their final rush. If they do so too soon, of course the mob swerves to one side, and pass behind the hunter; but, if they manage well, the two simultaneously close in on the drove, boleadoras in hand, ready to cast; and at the moment the horses pass each singles out a good looking colt, whirls the balls round his head, and letting fly, entangles them round both hind legs so effectually that the victim, after struggling onward some fifty yards, is obliged to submit, and falls heavily over. After the first cast the hunter presses on close to the heels of the escaping mob, and, loosening his second pair from round his waist, often secures another colt. Then he dismounts, and, after tying the prostrate animal's fore hoofs close together with some of the many rawhide thongs about his person or his horse, he leaves it, struggling but secure, and resumes his place in the circle as before, in case there is more game still within it. And here let me give a brief description of the boleadoras, for it is these that are chiefly used—and not the lasso, as is commonly supposed—for catching the wild horses of the Pampa. Three double-twisted thongs of raw horse-hide, each about three feet six inches long, and softened by rubbing and working them in the hands, and when in a pliant state, are tied together at one end. At the other end of one is fastened a stone ball, covered with hide, and shaped so as to fit the grasp of the hands; and to the other two ends are bound wooden balls (of the size of a small croquet one), also cased in hide. Grasping firmly the stone one, the hunter whirls the others around his head, and, when the right moment has arrived, he lets go (as a boy does half his sling), and the three bars twist the thongs around whatever they are thrown at. But to resume. After all the baguales inclosed have escaped or been caught, we look after the ostriches, which have, as a rule, remained, hiding themselves about the middle of the circle. Any who may have singly tried to run off previously have been allowed to do so; but if a troop should have made a rush (during the hunt), three or four of the men pursue and generally bag one apiece. Many others will drop into the low grass, hoping not to be seen, but the corredores are too keen-sighted, and, galloping up and down, they beat the ground like spaniels, shouting and whistling, until the birds are flushed, one by one, and have to run for it. On these expeditions any deer and guanacos (a species of Ilama) are not hunted; only so when neither baguales nor ostriches have been inclosed.—*London Field.*

About Editors.

Every editor loves to have his friends, and particularly his readers call on him. They belong to the same family, as it were. But when you call to see the editor don't stay too long. Editors are generally very busy in business hours. If you have any suggestion to make, or news to communicate, state it in as few words as possible. Don't offer an excuse or indulge in a long preface to what you have to say. Blurt it out; tell the editor you wish him well, and tell him good-by. Editors dote on such men as that; they love to receive such calls from them. Don't argue with him, don't try to do it; he has no time for argument while at his work.

When you write to an editor for publication, make it short—boil it down. Pitch right into the middle of your subject, and be sure to stop when you are through. Editors always like something fresh and original in the way of communications, and are especially fond of news. But the Editor must always be the judge of what is worthy of publication. Of course, every writer thinks his own production the best, just as every mother thinks her baby the prettiest that ever was born. But the editor may be so stupid as to have a different opinion. If so, it can't be helped. Don't try to urge him out of his notion. If he is too stupid to appreciate a good thing, you can't expect to remedy his dullness. You may think you are a good deal smarter than the editor, and that may be true, but the editor may be responsible and you are not. There is no class of men so anxious to please a majority of the people as the editors are. There is no class of people so covetous of the good opinion of others. It is well to remember that fact.—*Printer's Circular.*

THERE are three ways of getting out of a scrape—write out, back out, and the best way is to keep out.

RED on a railroad signifies danger, and means "Stop." It is the same thing displayed on a man's nose.